WEST VALLEY Groundwater CLEANUP COALITION

Potentially Responsible Party Presentation

September 16, 2009

Agenda

- Introduction of RID Project Team
- RID Remediation Project PRP Presentation
- Communications/Web Site
- Question & Answer
- PRP Fact Sheet Handout

Roosevelt Irrigation District
Response Action Team

- Stan Ashby – RID Superintendent
- Gallagher & Kennedy (G&K) – Legal Team
- Montgomery & Associates – Technical Team
- Lawrence Moore – Public Relations

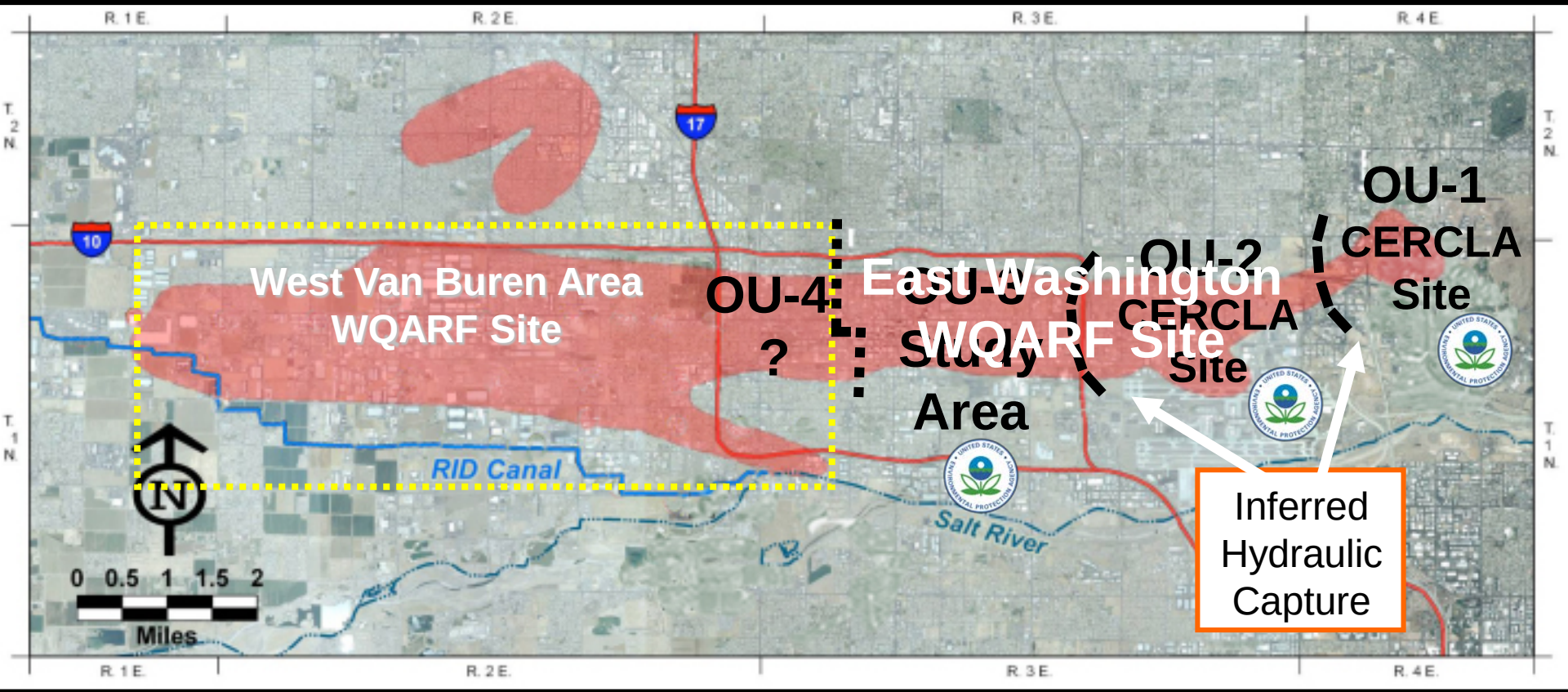
Arizona Aquifer Water Quality Assurance Revolving Fund (WQARF) Program History

- State Superfund Program – 1986
- West Van Buren Area (WVBA) listed as State WQARF Site – November 13, 1987
- Draft WVBA WQARF Site Remedial Investigation Report – October 31, 2008

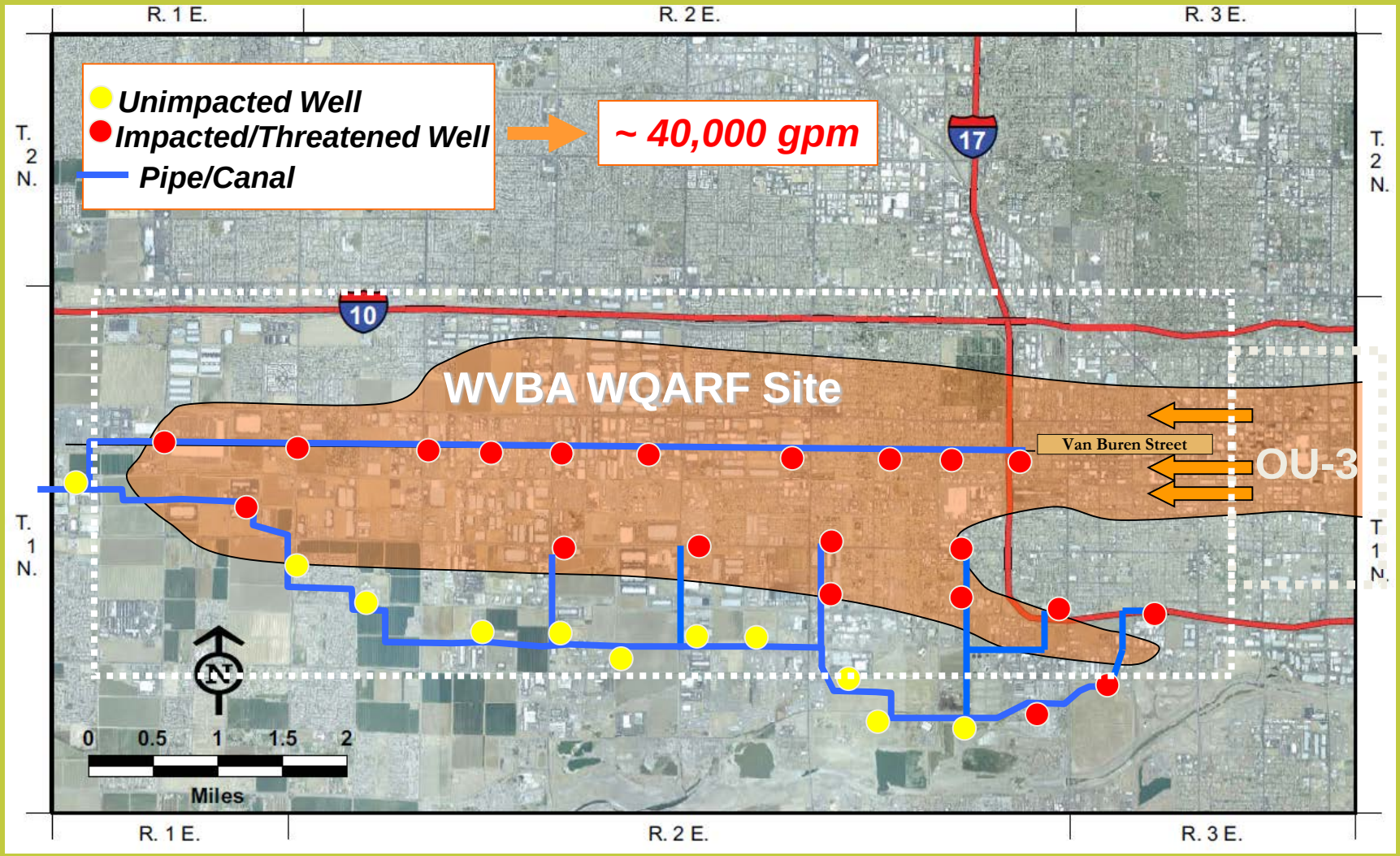
West Van Buren Remediation Investigation

Draft report genesis of RID remediation project

- WVBA RI characterized extent of West Van Buren groundwater plume
- WBVA RI Contaminants of Concern: tetrachloroethene (PCE); trichloroethene (TCE), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE) and chromium



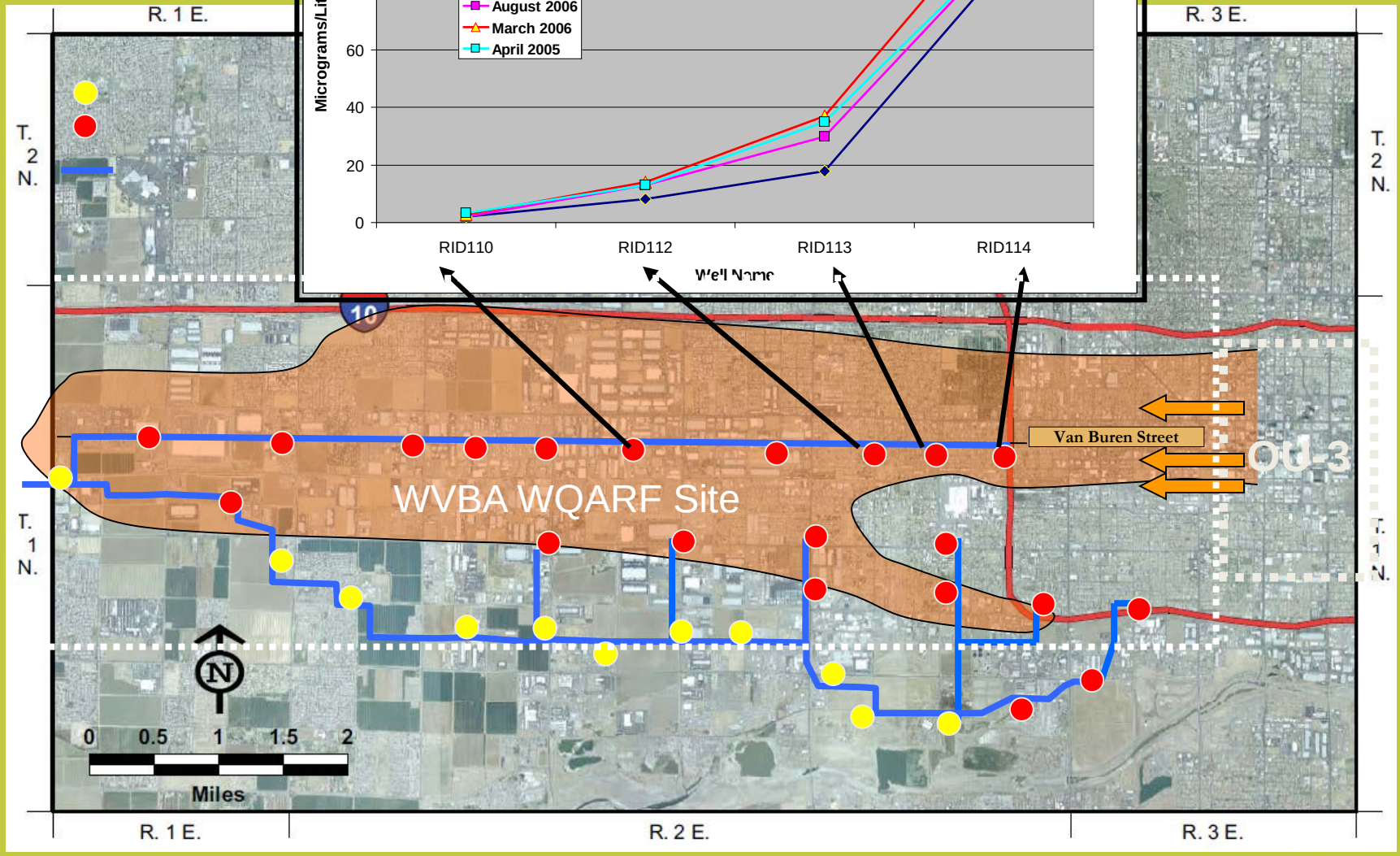
WVBA Remediation Investigation confirmed VOC impact to 21 RID wells



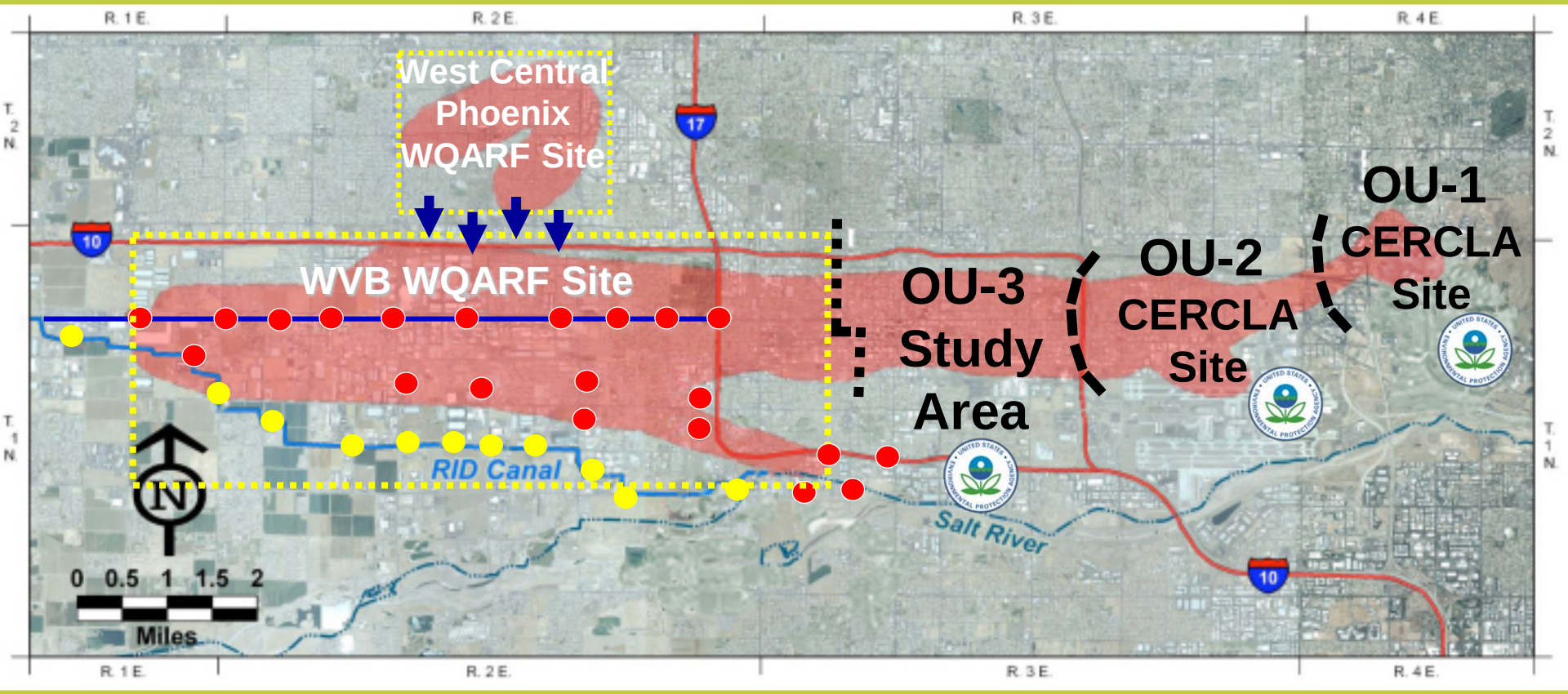
VOC Impact

- 21 wells impacted by VOCs
- 18 wells > 5ppb VOC
- Concentrations of VOCs:
  - TCE @ 85 ppb - 1,1-DCE @ 9 ppb
  - PCE @ 19 ppb - cis 1,2-DCE @ 8 ppb
  - MTBE @ 45 ppb - 1,1-DCA @ 5 ppb
- 40,000 gpm impacted water supply

WVBA RI c wells from up Us



RI confirmed West Central Phoenix WQARF Site plume has merged into WVBA plume



West Valley Groundwater Cleanup Coalition

Potential Responsible Parties

- WVBA RI identified specific facilities (through sampling) where releases or threatened releases of VOCs occurred within the WVBA WQARF Site
- WVBA RI identified Potentially Responsible Parties (PRPs) as owners or operators of the facilities where releases were documented

Basis for RID's PRP List

1. PRPs identified by ADEQ in its WVBA RI
2. PRPs identified by ADEQ in draft and final RIs from the WCP WQARF site files
3. PRPs identified by EPA in the federal OUs
4. Other agency documents

Individualized RID PRP Fact Sheet

- Identifies each Potentially Responsible Party
- Identifies the locations of each facility with documented releases
- Identifies specific contaminants of concern released to soils and/or groundwater at the specified facility
- Identifies EPA or ADEQ source documenting the release information upon which RID is relying

Why has RID pursued its own response action?

- RID could lose control over its well field/operations
- If RID did not pursue its own response action,
  - EPA would pursue separate OU-3 remedy (and still may)
  - EPA could pursue separate OU-4 remedy (and still may)
  - ADEQ could pursue separate WVBA remedy
  - ADEQ could pursue separate WCP remedies

Result of RID Inaction

- Multiple separate remedies with significant regulatory oversight
- Substantially higher PRP capital/O&M and administrative costs

✓ Requires new extraction wells and piping

✓ Requires new treatment systems

✓ Results in fragmented end use

RID's Two-Phase Remedy
Cost-Effective Response Action

- Provides a single, comprehensive and effective regional pump and treat remedy that maximizes existing RID infrastructure
- Restores ~ 40,000 gallons per minute of impacted water supply
  - Drinking water use (Phase 1) ~ 20,000 gpm
  - Continued irrigation use (Phase 2) ~ 20,000 gpm

Phase 1 - Drinking Water End Use (Early Response Action)

- **Phase 1A** – continuous pumping of impacted RID wells along the Salt Canal (up to 20,000 gpm) and treat using liquid phase GAC for drinking water supply
- **Phase 1B** – pipe and continuously pump most highly impacted RID wells to Salt Canal and treat using liquid phase GAC for drinking water supply

Phase 1 Objectives

- Protect human health and the environment by reducing exposure to VOCs in groundwater
- Prevent transfer of VOCs from contaminated groundwater to air
- Maintain plume containment
- Protect non-impacted RID wells

Phase 1 Objectives

- Mitigate VOC impacts to impacted RID wells
- Prevent further groundwater degradation
- Begin restoration of groundwater
- Treat highest concentrations with fail-safe treatment technology
- Provide drinking water supply

Phase 1 Preliminary Cost Estimates

- Capital Costs . . . . . $30 - $35M
- Annual O&M Costs . . . . . $4 - $5M
- 30-Year NPV O&M Costs . . . $75 - $95M

(30 year NPV @ 6% discount)

Phase 2 - Irrigation End Use

- Pipe lower VOC concentrations to less expensive remedial measures (air stripping, blending, well replacement) prior to discharge to Main Canal for continued irrigation use

Phase 2 Objectives

- Protect human health and the environment by reducing exposure to VOCs in groundwater
- Mitigate transfer of VOCs from contaminated groundwater to air
- Remove lower VOC concentrations at lesser expense for continued irrigation use
- Restore all RID wells/capacity
- Restore groundwater quality

Phase 2 Preliminary Cost Estimates

- Capital Costs . . . . . $10 - $15M
- Annual O&M Costs . . . . . $0.5 - $1.5M
- 30-Year NPV O&M Costs . . . $10 - $30M

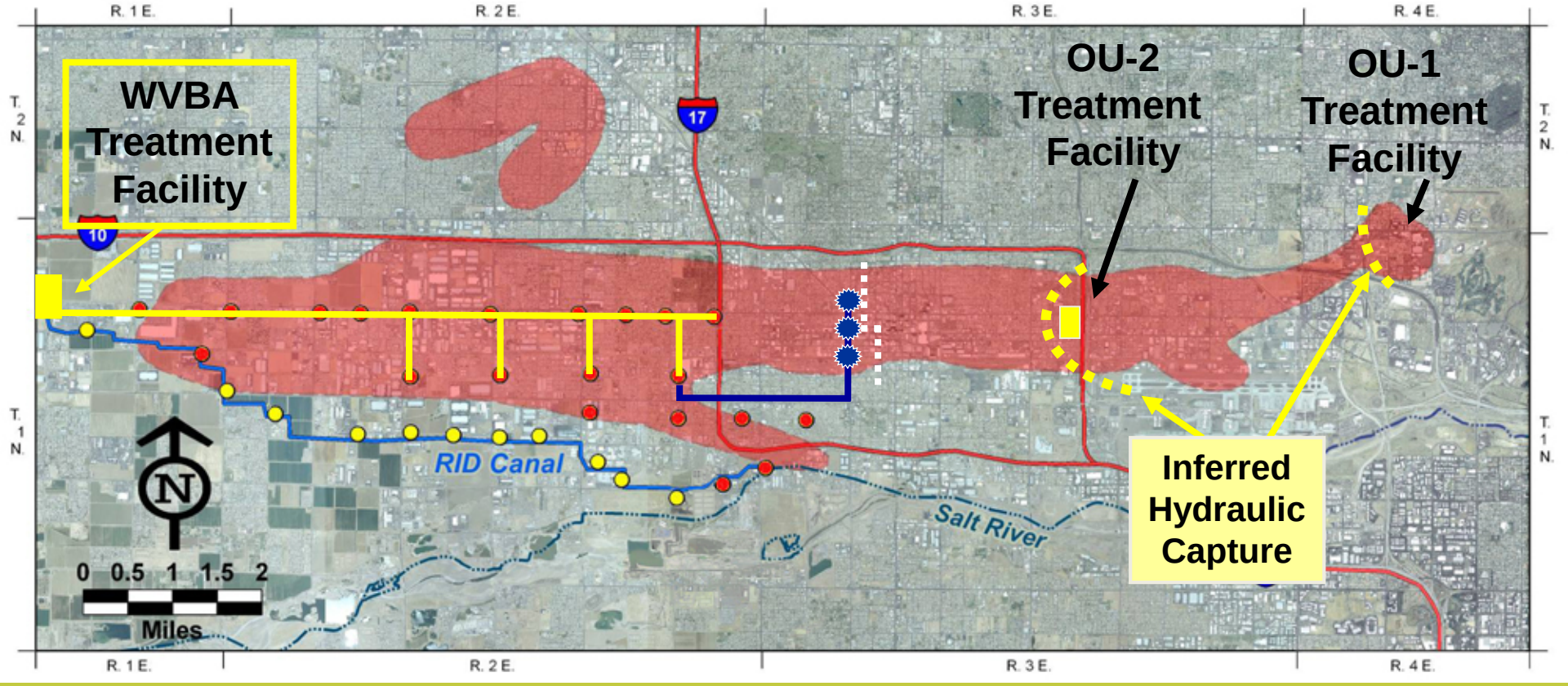
(30 year NPV @ 6% discount)

Note: Phase 2 remedial actions will be evaluated and selected through Feasibility Study and Proposed Plan

RID Final Regional Remedy

- Significantly less costly than multiple separate P&T systems
- Does not require costly liquid phase GAC treatment for treated waters that will be used for continued irrigation for the reasonable foreseeable future (unlike OU2)
- Removes substantially greater VOC mass than existing P&T systems

Regional Groundwater VOC Mass Removal



- OU-1 Interim Remedy Removes ~ 600 lbs./yr. (2008 data)
- OU-2 Interim Remedy Removes ~ 1,200 lbs./yr. (2007 data)
- RID Early Response Action – Phase 1A to Remove ~ 3,500 lbs./yr.
- RID Early Response Action – Phase 1B to Remove ~ 2,500 lbs./yr.
- OU-3 Alternative Could Remove an Additional 3–4,000 lbs./yr.

RID Cost Recovery Options

- RID is prepared to implement this two-phase regional remedy and pursue cost recovery litigation on a joint and several liability basis against all identified PRPs
- However . . . RID's preferred option is to settle with PRPs

Traditional Settlement Option

- RID will settle with PRPs who enter into a consent decree with RID and ADEQ to fund RID/ADEQ response costs including:
  - Capital costs - $40 - $50M for necessary upgrades to existing RID infrastructure and design/construction of new treatment facility (ies)
  - Legal obligation – Fund annual O&M ($4.5 - $6.5M)
    - $85 - $125M (30-year NPV O&M @ 6% discount)
  - Total capital and O&M costs $125 - $175M (30-year NPV)

Creative Settlement Option

- In addition to funding capital costs, settling PRPs agree to fund installation of a delivery pipeline adjacent to the RID main canal to convey treated groundwater to West Valley communities
- Treated water provides water supply to West Valley
- End users of this water pay treatment O&M costs (instead of PRPs)

Cost Benefit of Creative Settlement

- **Cost Benefit:** Capital (final remedy) $40 - $50M
- **Pipeline** (to Goodyear – Buckeye) + $20 - $35M

  $60 - $85M

- **Potential 30-Year NPV Savings:** $65 - $110M

Finality of Liability Under Creative Settlement

- Consent decree with RID, ADEQ and End Users
- PRPs pay only agreed settlement amount (no O&M)
- Liability release from RID
- Covenant not to sue/contribution protection from ADEQ

Unique Opportunity for Early and Final Settlement

- WVBA WQARF Site RI completed:
  - Plume characterized
  - PRPs identified
- Effective regional remedy in place
  - 20+ years of demonstrated “containment”
- Need funding/legal obligation to:
  - Optimize existing water extraction/conveyance infrastructure
  - Construct necessary treatment facility(ies)
  - Operate and maintain treatment facility(ies)
- Can reasonably estimate remediation costs now for early and final settlement

To assist RID in deciding where to allocate its resources, RID requests:

- By **October 9, 2009**, indicate whether your organization is interested in participating in settlement discussions
- If there is a critical mass of PRPs who indicate settlement is likely, RID will pursue settlement. If not, RID will pursue litigation.

If by October 9th a critical mass of PRPs indicate interest in settlement:

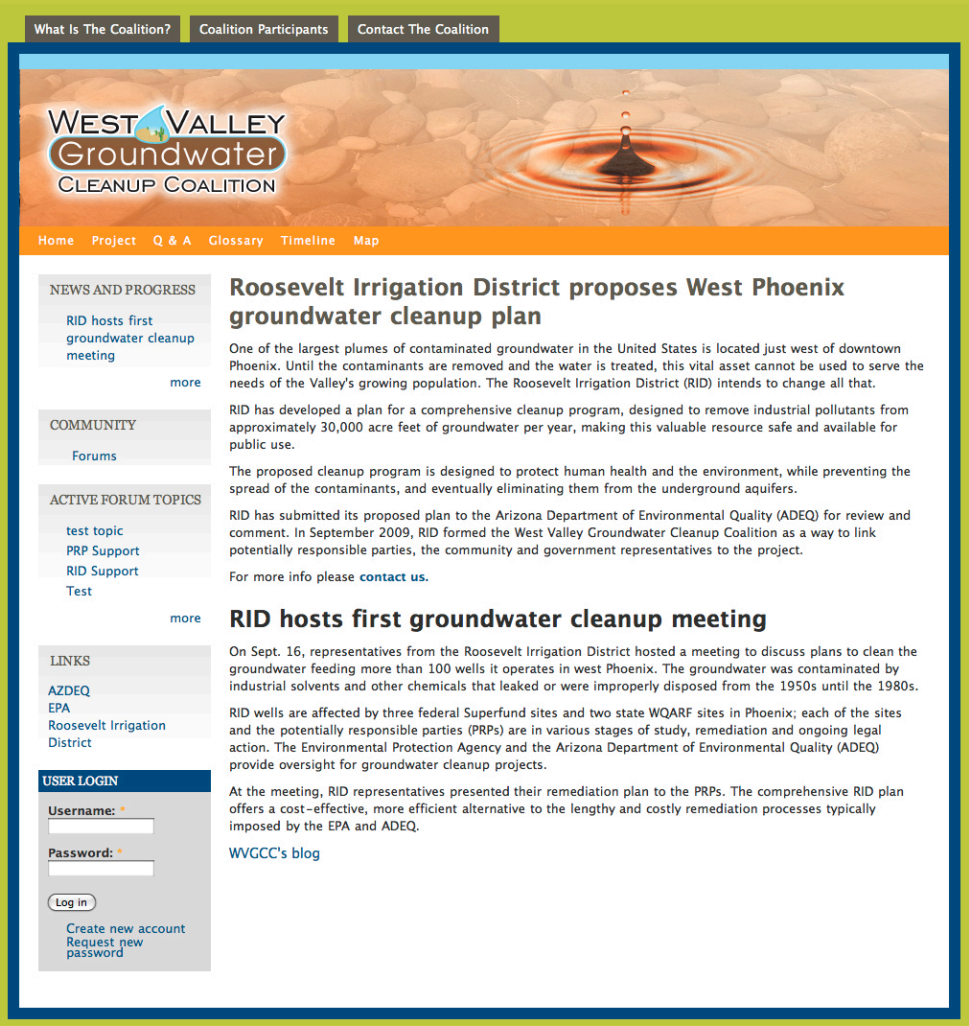
- By **October 31, 2009**, indicate whether your organization is interested in the traditional or the creative settlement option
- Unless a critical mass of PRPs indicate a desire to pursue the creative option, RID will pursue the traditional settlement option

Lawrence E. Moore, Ph.D.

Project Communications

Stakeholder/Constituency Focus

- Media Relations
- Community Relations
- Public Affairs



Questions?

Thank you for attending …

Please pick up your PRP Fact Sheet

www.wvgroundwater.org

Online September 18